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ABSTRACT

A novel paradigm was developed and two studies conducted to test the contribution of six conversational skills to children's friendship formation. In study 1, 4- and 5-year-olds individually played for 30 minutes with a 2-foot-tall talking doll. The doll contained a wireless hidden receiver/speaker enabling a concealed female assistant to converse with the subject. The assistant was trained to speak in an age-appropriate manner while systematically varying the competence/incompetence of her speech with regard to the following six conversational skills found by Gottman (1983) to predict friendship formation in previously unacquainted children: communication clarity and connectedness, information exchange, establishing common-ground activities, uncovering similarities and differences, conflict resolution, and self-disclosure. Results indicated that children, especially girls, who met the skilled doll were more likely to progress toward friendship than children who met the unskilled doll. Boys were unlikely to move toward friendship when the doll spoke unskillfully. Study 2 replicated and extended these findings. Sex differences in friendship formation could not be attributed to the sex of the assistant. Differences between girls in the skilled and unskilled conditions became less pronounced with repeated play sessions. A summary of the operationalization of the six conversational processes and the content of skilled and unskilled speech is appended. (Author/RH)

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MAKING FRIENDS WITH AN EXTRA-TERRESTRIAL: CONVERSATIONAL SKILLS AND FRIENDSHIP FORMATION IN YOUNG CHILDREN

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ABSTRACT

A novel paradigm was developed and two studies conducted to test the contribution of six conversational skills to childrens' friendship formation.

In Study 1, four- and five-year-olds were brought individually to a playroom where they played for 30 minutes with a two-foot talking doll that resembled a green human in silver clothing. The doll contained a wireless hidden receiver/speaker which enabled a concealed female assistant to act as its voice and converse interactively. The assistant was trained to speak in an age-appropriate manner while systematically varying the competence/incompetence of her speech with regard to six conversational skills found by Gottman (1983) to predict friendship formation in previously unacquainted children. This resulted in two experimental conditions -- skilled and unskilled. Three measures were used convergently to determine whether children did or did not progress toward friendship.

Results indicated that children, especially girls, who met the skilled doll were more likely to "Hit-it-off" or progress toward friendship than children who met the unskilled doll. Boys, in particular, were unlikely to "hit it off" when the doll spoke unskillfully. Thus, strong experimental support was found for Gottman's contention that this particular set of six conversational skills are critical to determining subsequent friendship formation in this age group.

Study 2 replicated and extended these findings. In particular, it was found that (1) sex differences in hitting it off could not be attributed to the sex of the assistant; and (2) differences in the likelihood of hitting it off between girls in the skilled and unskilled conditions became less pronounced with repeated play sessions. The latter finding suggests that these conversational skills by themselves are not sufficient to sustain progress toward friendship in this context.

It is suggested that the talking doll paradigm might be profitably extended to the study of other aspects of childrens' conversation.

MAKING FRIENDS WITH AN EXTRA-TERRESTRIAL: CONVERSATIONAL SKILLS AND FRIENDSHIP FORMATION IN YOUNG CHILDREN

Why do some pairs of children become friends while others do not? Gottman (1983) recently audiotaped pairs of unacquainted preschool children as they progressed or did not progress toward friendship. He found that the emergence of friendship at this age could be accurately predicted through a detailed examination of children's conversations upon first meeting. In particular, six conversational processes accounted for almost all of the variation in the success of childrens' friendship attempts: the extent to which children (1) communicate clearly and connectedly; (2) exchange information successfully; (3) successfully establish common play activities; (4) explore similarities and differences; (5) resolve conflicts amicably when they arise; and, to a lessor extent, (6) disclose private thoughts and information. Moreover, there was also evidence that such dyadic differences in part reflected individual behavioral differences.

Gottman's findings suggest that these six processes, or some subset of these processes, play a determining role in whether or not two unacquainted children will hit it off and progress toward friendship; in effect, they may represent friendship formation "skills". If true, this has important implications for researchers interested in helping children who have difficulty making friends. Because Gottman's data are correlational they do not address this possibility directly however. The present research was designed to test their role experimentally; that is,

to determine whether a gross manipulation of the six conversational processes Gottman identified would in fact systematically alter the subsequent likelihood of the development of a friendship between a child and a stranger. To do so required that (1) a novel procedure be developed to allow rigorous control over conversation while preserving much of the natural richness and spontaneity of young children's discourse, and (2) the conversational processes Gottman identified at the dyadic level be operationalized at the level of the individual.

STUDY 1

Method and subjects

Forty-four preschoolers (mean age 5:1) were brought individually to a playroom where they played for 30 minutes with a two-foot tall talking cloth doll, dubbed Panduit, that resembled a green human in a silver clothing (see Figure 1). Although the doll did not move, it stood upright, was portable, and contained a hidden wireless receiver/speaker which enabled a female assistant behind a two-way mirror to act as its voice and converse interactively. Extensive pilot testing and parental reports indicated that most children enjoyed meeting the doll, spoke to it unguardedly when adults were absent, and viewed it as unusual, but very much "alive". A few considered it a "robot", "computer", or "outer-space" boy (girl).

Using a detailed manual developed from transcripts of actual preschoolers' conversations, the assistant was trained to systematically vary the age-appropriate competence or

incompetence of her speech with respect to the six target processes. This resulted in two experimental conditions, Skilled and Unskilled. A summary of the operationalization of the six conversational processes and the content of skilled and unskilled speech in presented in Appendix A. Eleven males and 11 females were randomly assigned to each of the two conditions. Post hoc analyses indicated that judges could discriminate skilled from unskilled play sessions with perfect accuracy in random paired comparisons.

Following the play session, each child was reunited with his or her mother in an adjacent waiting room for 5 minutes of unstructured conversation. These conversations were audiotaped and raters naive to the child's condition (Skilled/Unskilled Panduit) later rated each using a 20-item rating scale. The specific items tapped behaviors such as how often the child spoke of Panduit and how much they remembered about the session, as well as impressionistic judgements such as how similar the child felt to Panduit, how reluctant the child was to have the session end, and how much fun the child had had. The scale yielded a global progress toward friendship score (interrater reliability =.83).

Following the 5-minute parent conversation period, a second naive experimenter returned and offered the child a choice of: (1) leaving at that time; (2) playing for 5 more minutes, but with Panduit absent; or (3) playing for 5 more minutes with Panduit present. Order of presentation was counterbalanced within cells (sex by condition). The session either ended there,

or 5 minutes later, depending on the child's choice.

Finally, two to four days after the play session and parent conversation, each mother completed a 20-item questionnaire designed to assessed their impressions of the degree to which their child and Pandvit progressed toward friendship. Information was gathered, for example, on how often the child spoke positively on of Pasnduit since the play session, whether the child had discussed the experience with siblings and friends, whether the child had asked to return, and whether the child spoke of Panduit as a friend, as well as ratings of how close the child felt toward Panduit relative to other friends and how reluctant the child had been to leave that day. The questionnaire yielded a single cumulative progress toward friendship score (coefficient alpha = .84).

We decided to be conservative and use an extremely stringent criterion of hitting it off. A convergent overall index of progress toward friendship was constructed that incorporated the child's choice to return or not return for further play with Panduit, the mother's questionnaire score, and the coders' ratings of the 5-minute mother-child conversations. Specifically, children were designated as having "hit it off" with Panduit if they: (1) chose to return to play further with Panduit; (2) had above average mother questionnaire scores, and (3) had above average post-session mother-child conversation ratings. All other children were considered to not have hit it off. We expected that the effect of these decisions in defining hitting it off would be to make it less likely for children to

have hit it off with Panduit. Actually Panduit was a very attractive partner for most children, as evidenced by the fact that 30 of the 44 children, or 68%, chose to return and play further with Panduit rather than end the session or play alone.

Results

Table 2 shows the number of children who hit it off in each skill condition for each sex. The data in Table 1 were submitted to a 2 X 2 X 2 likelihood ratio chi-square (LR X^2) analysis (Bishop, Fienberg, & Holland, 1975; Upton, 1978) using the BMDP4F log-linear analysis procedure for multiway contingency tables. There were two factors, Sex of the child (male/female) and Panduit's skill (skilled/ unskilled), and one response variable, Hitting it off (did/did not).

The log-linear analysis revealed two primary determinants of a child's likelihood of hitting it off. First, there was the predicted Hitting it off by Panduit's skill interaction (LR $X^2[1]= 9.25$; $p<.01$): children who interacted with a skilled Panduit were significantly more likely to hit it off than children who interacted with an unskilled Panduit. Because the criterion for hitting it off was set so stringently, this is seen primarily as a decided tendency for few children to hit it off in the Unskilled Panduit condition: Twelve, or slightly more than half (55%), of the 22 children who met the skilled Panduit hit it off. By comparison, hitting it off in the unskilled condition was rare: only 3 of 22 children (14%), or roughly one-fourth the number who hit it off in the skilled condition.

The second primary influence on the observed distribution of

hitting it off and not hitting it off was a marked discrepancy in the overall probability of hitting it off (LR $X^2[1]= 4.53$; $p<.05$): about half as many children hit it off (n= 15) as did not hit it off (n= 29). As we noted, such a discrepancy was expected given the stringent three-fold criterion used to define hitting it off.

A hierarchial model defined by the Hitting it off effect and the Hitting it off by Panduit's skill interaction[1] was fit to the observed frequencies in Table 1. This simpler model fit the observed data well (LR $X^2[2]=3.40$; $p<.18$), suggesting that it provided a sufficient explanation of the observed distribution of hitting it off and not hitting it off in the table. Hence this model supports a strong effect for Panduit's communicative competence.

Although this model fit the observed data reasonably well without reference to the sex of the child, inspection of the expected and observed frequencies under this model indicated a tendency for it to underestimate both the number of skilled girls who hit it off and the number of skilled boys who did not. Further, there was a marginally significant Hitting it off by Sex of child interaction (LR $X^2[1]= 3.19$; $p<.08$): twice as many females (n= 10) hit it off as males (n= 5), regardless of condition. Apparently, Panduit is a somewhat more attractive partner for girls than boys. In fact, when this sex difference is taken into account, it explains nearly all of the remaining systematicity in the observed distribution of hitting it off and not hitting it off (LR X^2 [1] =.21; $p<.65$)[2].

STUDY 2

The sex difference in Study 1, though not dramatic, was unexpected: Gottman found few important sex differences in his data. Yet girls in Study 1 were more likely to hit it off with Panduit than boys, regardless of condition. The least interesting possible explanation for this finding was that it was simply methodological, stemming from the fact that a female assistant had acted as Panduit's voice for both boys and girls. This was done partly to increase standardization across sexes and partly because pilot work indicated that the higher pitch of a female's voice was less intimidating and more child-like. Perhaps the feminine voice made the situation less credible to boys, all of whom were told that Panduit was also a boy? We decided to replicate Study 1 using a male assistant to act as Panduit with boys in an effort to rule out this methodological hypothesis. In addition, we decided to offer children several play experiences with Panduit, instead of only one, in an effort to determine whether differences in the likelihood of hitting it off between the skilled and unskilled conditions become more dramatic with repeated exposure; or whether they become less dramatic, suggesting that the conversational skills are not sufficient to sustain progress toward friendship in this context.

Method and subjects

The procedure for the replication study was identical to the initial study, except that: (1) a different female assistant acted as Panduit for the girls, while a male assistant acted as Panduit for the boys; and (2) girls, but not boys, returned for three

play sessions with Panduit over a 2-week period. The single session data of boys and the first session data of girls provides a replication of Study 1 with the added control for the sex of Panduit's voice. The girls' third session data provides an opportunity to examine the effects of repeated exposure. The decision to have only girls return for second and third sessions was based on the sex difference obtained in Study 1. Since the experimental manipulation of Panduit's skill affected girls most, we decided to study the effects of repeated sessions with girls only.

Forty children (20 boys) participated in Study 2 (mean age 5:1/3). Half of the boys and half of the girls were again randomly assigned to meet a skilled Panduit. The remaining children met an unskilled Panduit. Again, post hoc analysis of the skilled/unskilled Panduit manipulation indicated that naive assistants could discriminate skilled from unskilled videotapes with perfect accuracy. Also, interrater agreement for the parent-child conversations was again quite high (session 1-both sexes: .91; session 2-girls: .96; session 3-girls: .95).

Results

Replication. The first question was whether the findings of Study 1 would replicate with a new sample, particularly among boys where a male, rather than female, assistant acted as Panduit's voice. This issue was again examined in a log-linear analysis. Table 2 presents the number of boys and girls in the skilled and unskilled Panduit conditions who hit it off, based on the single session data of boys and the data from the first

session of girls.

The log-linear analysis revealed that they data were best fit (LR ^{2}[1]= 2.16; p<.14) by a hierarchial model based on two interaction terms[3]. The primary interaction term was the predicted Hitting it off by Panduit's skill dependence (LR X^2[1]= 5.82; p<.05). Analysis of the marginal table of frequencies for this term indicated that 11 of 20 (55%) children in the skilled condition hit it off, compared to only 4 (20%) of the children in the unskilled condition. Thus, children in the skilled condition were almost three times more likely to hit it off than children in the unskilled condition. In addition, there was once again a marginally significant Hitting it off by Sex of child dependency (LR X^2[1]= 3.14; p<.08): regardless of condition, twice as many girls (n= 10) hit it off as boys (n= 5). The strong Hitting it off/not hitting it off asymmetry found in Study 1 did not re-emerge in Study 2.

Temporal course. The second question of interest was whether differences in the probability of hitting it off would become even greater with repeated exposure, or whether they would diminish from the first to third sessions. Figure 2 indicates the probability of hitting it off in the skilled and unskilled Panduit conditions for Sessions 1 and 2. The association between hitting it off and Panduit's skill that is present for the initial session (corrected Pearson X^2[1]= 5.0; p<.05) is much less evident at the third session (corrected Pearson X^2[1]= .82; ns.). This change is the result of a decline in the number of children hitting it off in the skilled Panduit condition, rather

than a rise in the number of children hitting it off in the unskilled Panduit condition: that is, while the probability of hitting it off among unskilled-Panduit girls (.20) was unchanged from the initial to the final session, among skilled-Panduit girls there was a steep decline in this probability from .80 in session 1 to .50 in session 3.

At the same time, it would be misleading to suggest that there was little continuity in hitting it off from the initial to the final session among skilled-Panduit girls. Five of the eight skilled-Panduit girls who initially hit it off also hit it off in the final session and there were no skilled-Panduit girls who hit it off in session 3 who did not also hit it off in session 1. By comparison, neither of the two unskilled-Panduit girls who hit it off in the initial session also hit it off in the final session.

DISCUSSION

The present research provides convincing support for Gottman's contention that this particular set of six conversational skills are critical to determining subsequent friendship formation in this age group. In Study 1, the log-linear analyses confirmed that a child's condition was the largest of three primary determinants of his or her likelihood of hitting it off with Panduit: children in the skilled-Panduit condition were many times more likely to hit it off as children in the unskilled-Pamduit condition. Study 2 replicated this finding almost exactly, adding further creedence to this claim.

In the past half decade several reviews have appeared on the topic of interventions on behalf of children who have difficulty

making and keeping friends (e.g., Conger & Keane, 1981; Oden, 1980; Wanless & Prinz, 1982). A common conclusion of these and other authors (e.g., Asher, Renshaw, Geraci, & Dor, 1979; Furman, 1980; Putallaz & Gottman, 1984) is that much more effort has gone into determining how to change these children's behavior than into which behaviors to change. The research presented here marks a significant step toward remediating this imbalance. It indicates that efforts to improve young children's success at making friends should profit from efforts to improve the proficiency with which they communicate clearly and connectedly, exchange information, establish joint play activities, explore similarities and differences, resolve conflicts amicably, and self-disclose.

Several questions remain however. First, the six conversational processes Gottman identified do not exhaust the list of potential important friendship skills; other important conversational processes such as gossip and humor must be examined. Conversely, it should be recognized that the skilled/unskilled manipulation in these studies was a gross manipulation of all six processes simultaneously. However, it was clear in operationalizing these processes that they formed a more or less linear hierarchy -- each process partially dependent other processes below it. Unclear or unconnected speech, for example, precludes successful information exchange and all other higher processes. A reductionistic perspective might be taken to determine the specific contributions of the various processes to the overall success of the manipulation. This could be done by

varying one or a few of the processes at a time and determining their impact.

Another interesting question, one we are currently pursuing, is what the unskilled Panduit condition can tell us about the dynamics of peer rejection. Recall that most children in the unskilled Panduit condition never hit it off, and that not hitting it off in Session 1 of Study 2 was strongly prognostic of not hitting it off in Session 3. This, of course, was as predicted. What is interesting is that our pilot work and several anecdotal observations indicate that Panduit is normally a highly attractive playmate -- thus some form of active social rejection was taking place which may bear similarities to the social rejection many unskilled children experience from peers. Consider the unskilled Panduit: our intention was to create a Panduit who appeared well-intentioned and sociable, but socially inept. What are children's immediate and long-term behavioral reactions to Panduit's sometimes baffling discourse? Do children simply withdraw, becoming less likely to extend social overtures? Do they become impatient? Do they reciprocate? Does their own conversational competence suffer? Our informl observations indicated wide individual differences in the manner in which children coped with the challenge of the unskilled Panduit. While some children simply withdrew, others were quite resourcefull in finding ways to compensate for Panduit's incompetence and quite willing to do most of the "work" necessary to facilitate getting along.

The present research also makes a more general point about

the use of the Panduit methodology as a paradigm for studying preschool children's conversation and communicative competence. To date, nearly 90 children have interacted with Panduit, in over 130 sessions. Our observations indicate that after a few moments most children are willing to open up and talk to Panduit in an unguarded, natural manner. Many have confided initimate feelings or secrets, and in a few tapes long bouts of high adventure fantasy play have occured. Children have nurtured, reassured, instructed, kidded, and even kissed Panduit. A few have later written Panduit letters and several anecdotal reports indicate that children vividly recall the play session for periods as long as a year. In other words, nearly all children find the context meaningful, and consider Panduit real and alive in some sense. This suggests that the Panduit methodology might be profitably applied to other research questions that require controlling young children's speech while preserving discourse sponteneity.

At the same time, several limitations of the procedure must be acknowledged. The first stems from anecdotal observations which suggest that the Panduit procedure has a limited effective age range. Children younger than about 4 years seem to find the talking doll so attractive that naturalistic discourse is disrupted. Moreover, these children, unlike children in the 4- to 6-year-old range, seem preoccupied with the question of whether or not Panduit is "real" and "alive". One 3-year-old boy, for example, repeatedly hit Panduit with a wooden spoon while observing Panduit's reaction, as if to determine whether Panduit was capable of feeling pain. Conversely, children older

than about 6 years approach Panduit skeptically, with discourse that is polite, but distant. Another experimental methodology may be necessary to study friendship formation in somewhat younger or somewhat older children.

The second limitation stems from the somewhat unexpected finding in the current research regarding the effect of the child's sex: girls in either condition in Study 1 tended to be more likely to hit it off than boys, which served to heighten to some extent the disparity between conditions in hitting it off. Study 2 replicated this finding, and ruled out the possibility that this effect was attributable to the to the use of a female assistant as Panduit. Why should girls find this context more conducive to hitting it off than boys? Perhaps a partial explanation is that the situation in general was more representative of girls' than boys' acquaintanceship contexts. Care had been taken to provide equal numbers of masculine and feminine sex-typed toys in the playroom. However, in retrospect, it was apparent that, aside from a sandbox, most availiable activities (e.g., coloring, dolls, Playdoh, puzzles) were relatively sedentary activities. There were almost no opportunities for gross motor play (e.g., chasing, swinging, climbing, throwing), and this fact was excacerbated by the fact that Panduit could neither walk nor move its arms (although most children moved its arms for it). Other research has shown that preschool boys prefer gross-motor, rough-and-tumble activities to more sedentary ones; while girls tend to prefer the opposite (e.g., Carpenter, 1981; DePietro, 1981). Whatever the ultimate

cause or causes, the procedure as it now exists appears to be more suitable for girls than boys.

Lastly, another limitation arises from the finding that the effects of the skilled manipulation diminish over the course of three sessions, at least among girls. The Panduit paradigm was designed to serve as experimental analogue to the acquaintanceship contexts found in more naturalistic settings, and to the extent that the findings confirmed those of Gottman, the two settings would appear to share several essential features. However, the finding that the conversational processes were sufficient to initiate, but not sustain, progress toward friendship in this study highlights the many differences that also exist between this analogue setting and the real world. Obviously, the friendships that children formed with Panduit were of a different nature than those that form spontaneously among pairs of young children. Yet, such differences do not detract from the key findings of this research -- they suggest instead that a similar skill manipulation in a more representative context might have even greater effects.

NOTES

1. This model contained the following terms: Hitting it off, Sex of child, Panduit's skill, Sex of child by Panduit's skill, and Hitting it off by Panduit's skill.

2. This model contained the following terms: Hitting it off, Sex of child, Panduit's skill, Sex of child by Panduit's skill, Hitting it off by Panduit's skill, and Hitting it off by Sex of child.

3. This model contained the following terms: Hitting it off, Sex of child, Panduit's skill, Sex of child by Panduit's skill, Hitting it off by Panduit's skill, and Hitting it off by Sex of child.

APPENDIX A

OPERATIONALIZATION OF THE CONVERSATION SKILLS

This appendix outlines the operationalization at the level of discrete behaviors of the dyadic conversational sequences identified in the Gottman (1983). A manual that specifies the operationalization of these conversational processes in detail is availiable. To appreciate this task, it is necessary to realize that Gottman did not claim to have described the social processes he studied -- only to have indexed them in the sense that if that process occurs more or less often, the sequences he measured would correspondingly increase or decrease in the data. A particular sequence was thought to represent an entire cluster of variables indexing a type of social event, but not necessarily an operational definition of the social event. For the Panduit study, operationalization sometimes could, in part, follow directly from Gottman's index variable. Every attempt was made to include in operational definitions the specific index sequences Gottman identified. But this was not always possible or sufficient. In such cases, operationalization was aided by reference to appropriate literatures on children's discourse processes.

Communication clarity and connectedness. Connectedness simply refers to linking one's own comments to the prior comments of the other person; i.e. person A speaks; person B responds; person A responds; and so on. To be considered dialogue, even the most inconsequential verbal exchanges require communication connectedness. Unconnected speech refers to talk in which

children are talking about different things, and during which statements are neither responses to previous statements nor are they responded to.

Communication clarity is concerned with the ambiguity of an utterance during conversation; that is, whether it is said in such a way as to be likely to be understood by the other person. Failing to communicate clearly, then, refers to omitting prepositions or details that would provide the listener with sufficient information to allow him or her to place a statement in context or to discriminate a particular object from several possible alternatives. It can also involve using idiosyncratic words or phrases, as in "You take the Kudapah" when "Kudapah" is a nickname the other child is not familar with.

Skilled behavior means care is taken to speak contingently, to supply adequate referential information, and to clarify ambiguous statements when asked to do so.

Unskilled behavior means important referential information is occasionally omitted and the resulting ambiguity not clarified. In addition, words with idiosyncratic meanings are introduced without any effort to clarify or contextualize them and disconnected discourse is created by occasionally responding to questions with topic changes.

Information exchange. Information exchange is the process by which children discuss themselves, the other, their own or other's possessions or actions, the surroundings, and things outside the present context. It does not include intimate topics, which are included as self-disclosure.

Skilled behavior means information exchange is enhanced by initiating summons-answer routines (e.g., "Hey, you know what?"), asking questions regarding objects, people, posessions, and attitudes, and using attention phrases such as "Hey!", "Look!", "Oh no!". Also, the child's questions are almost always answered fully.

Unskilled information exchange involves responding to many of the child's questions vaguely (e.g., I don't know) or inappropriately, or keeping answers brief.

Establishing common-ground activities. Common-ground activities are any activities in which the children jointly participate, including games, fantasy, and coloring. Conversation during common-ground centers around: talk regarding the objects of play, roles for each other, agendas for play, and simple narration of activities. It also includes verbal word play, guessing games, rhymes, songs, and jingles.

Actually, there is a hierarchy of play, organized in terms of demandingness for social responsiveness. At the lowest levels are parallel and simple narration. At the highest level are cooperative and fantasy play.

Because Panduit cannot move, there are constraints on its play activities. For example, Panduit is not able to color. However, Panduit can narrate play, add sound effects to play activities, and "pretend" to do some activity. Skilled behavior in this regard means using directives (e.g., Let's..., Do this., Come here, Take my...); offers (e.g., Do you want..., Can we...); requests for involvement (e.g., Would you ..., will you..); and

fantasy "transformations" (utterances which declare the nonliterality of an object). It also means that care is taken to avoid escalating play too soon or too quickly.

Unskilled behavior with regard to common-ground activity means rarely initiating or escalating joint action proposals, de-escalating some joint activities, and escalating still others too soon or too rapidly.

Similarities and differences. In the course of information exchange children regularly uncover similarities and differences in their personal attributes, attitudes, and possessions.

Skilled behavior involves initiating similarities by fabricating parallels during information exchange and by frequent use of "tag questions" (questions for agreement usually ending in "right?").

In unskilled behavior, the goal is to prevent much similarity and instead create a preponderance of differences.

Conflict resolution. Conflict resolution skills are skills for avoiding conflict or de-escalating conflict once it arises.

Skilled behavior means that when disagreements arise care is taken to state a reason, to cite a rule if appropriate, to make an appeasement offer, to change to a more polite demand form, and/or to explore feelings.

Unskilled behavior does not mean escalating conflict or initiating squabbles. It means that more of the burden for resolving disagreements was placed on the other by avoiding many any of the specific skills above.

Self-disclosure. This refers to personal revelations related

to feelings, thoughts, opinions, and past behaviors. It also includes telling secrets. Self-disclosure statements vary in terms of level of intimacy.

Skilled behavior in this regard means that attention is paid to prompting the other for self-disclosures by using direct questioning (e.g. Do you like..?) or, conversely, offering personal information where appropriate, and especially when asked. Also, care is taken to "match" the level of intimacy of the other's self disclosures, and a few "secrets" are told.

Unskilled behavior in this regard involves simply not volunteering intimate facts and secrets, even if asked (i.e., I don't know). It is not possible, of course, to stop the child from self disclosing if they choose to.

Although not concerned with the operationalization of the conversational skills per se, two aspects of skilled and unskilled speech might be noted here. First, the six social processes can be heuristically thought of as forming a hierarchy -- each somewhat dependent on the others following it: (1) self disclosure; (2) conflict resolution; (3) similarities/ differences; (4) common-ground activities; (5) information exchange, and, finally, (6) communication clarity and connectedness. For example, Gottman's work showed that self-disclosure was often embedded in common-ground activity talk; and everything depends to some extent on communication clarity and connectedness. The higher up in the hierarchy; the more latitude there is for unskillfulness. Thus in the Unskilled Panduit condition the relative number of instances of any given type of

unskilled behavior varies somewhat depending on the level of that behavior: while it is possible to never self-disclose during a conversation, it is pointless to never communicate clearly or connectedly. For this reason there was always at least some skilled behavior, particularly information exchange and communication clarity and connectedness, in the Unskilled Panduit condition. What varied was the relative balance of skilled to unskilled behavior across the conversation as a whole.

A second point is that our goal in the Unskilled condition was not to try to be aversive or obnoxious, nor to simply avoid speaking or to speak with flattened affect. The assistant was instructed to think of Panduit in this condition as "well-intentioned and sociable" but unskilled, and to avoid undue frustration or anatagonism.

Table 1

Number (percent) of children hitting-it-off/not-hitting-it-off in the Skilled and Unskilled conditions by sex.

Sex	Condition	Outcome		
		Hit-it-off	Did-not	Total
Females	Skilled	8 (73)	3 (27)	11
	Unskilled	2 (18)	9 (82)	11
Males	Skilled	4 (36)	7 (64)	11
	Unskilled	1 (9)	10 (91)	11
	Total	15 (34)	29 (66)	44

Table 2

Number (percent) of children hitting-it-off/Non-hitting-it-off in the Skilled and Unskilled conditions by sex -- Study 2.

Sex	Condition	Outcome		Total
		Hit-it-off	Did-not	
Females	Skilled	8 (80)	2 (20)	10
	Unskilled	2 (20)	8 (80)	10
Males	Skilled	3 (30)	7 (70)	10
	Unskilled	2 (20)	8 (80)	10
	Total	15 (37.5)	25 (62.5)	40

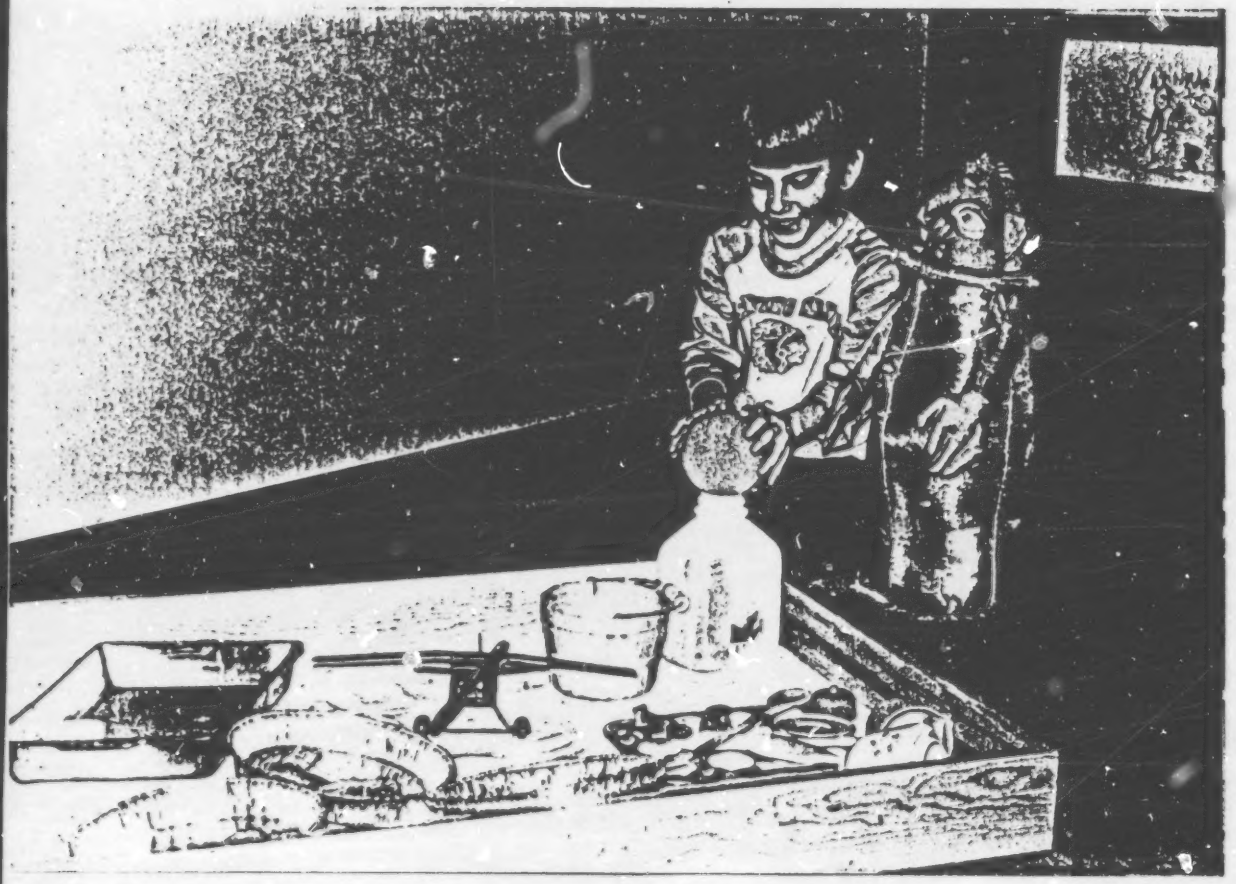

Figure 3-2

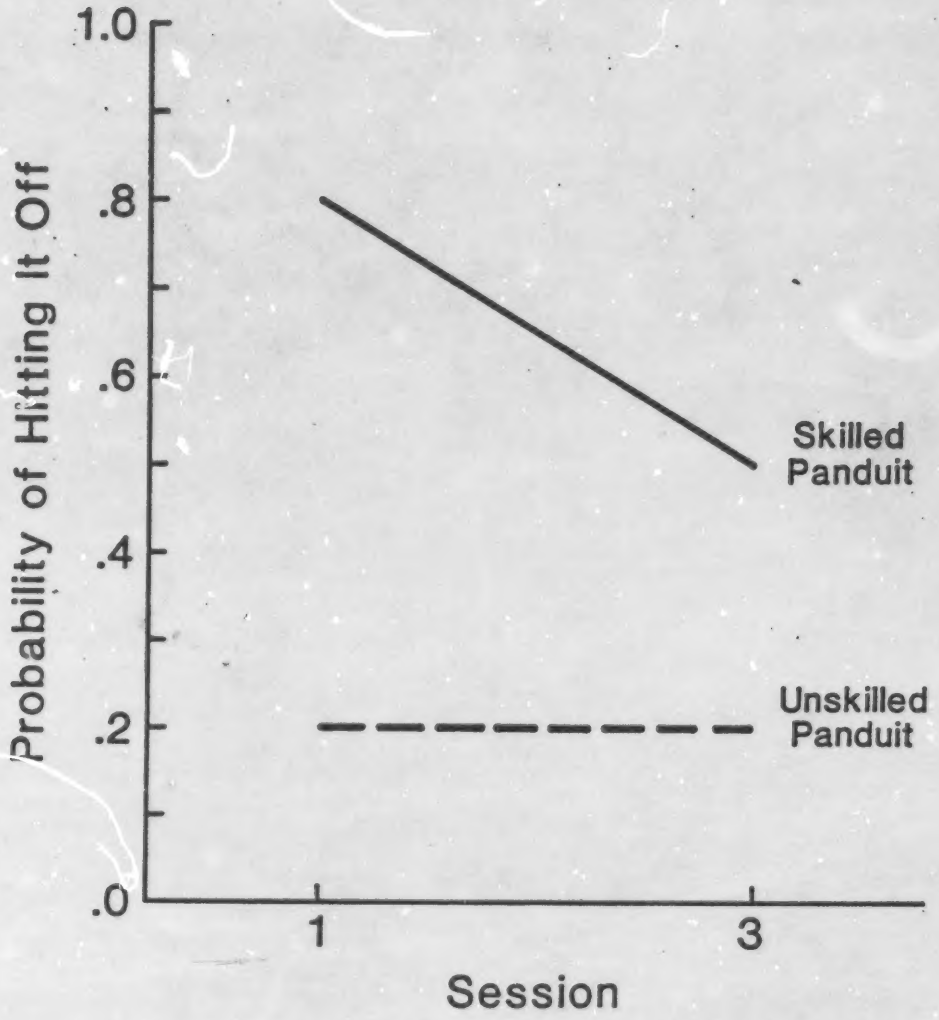

Figure 2. The probability of hitting it off in the skilled and unskilled doll conditions in the first and last sessions of Study 2.